



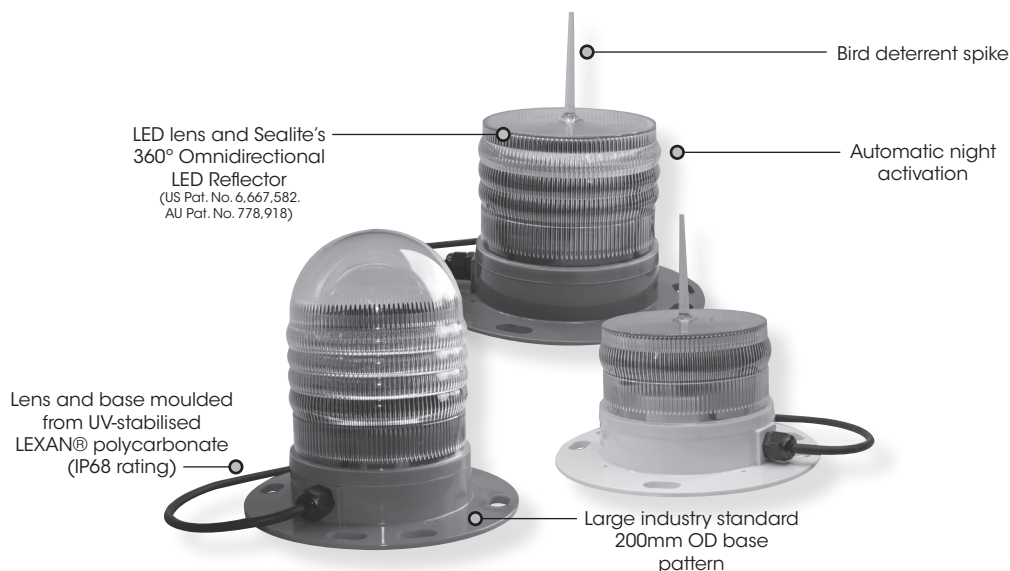
SL125-RC Series

5-9nm+ LED Marine Lantern & Radio Control System

Installation & Service Manual

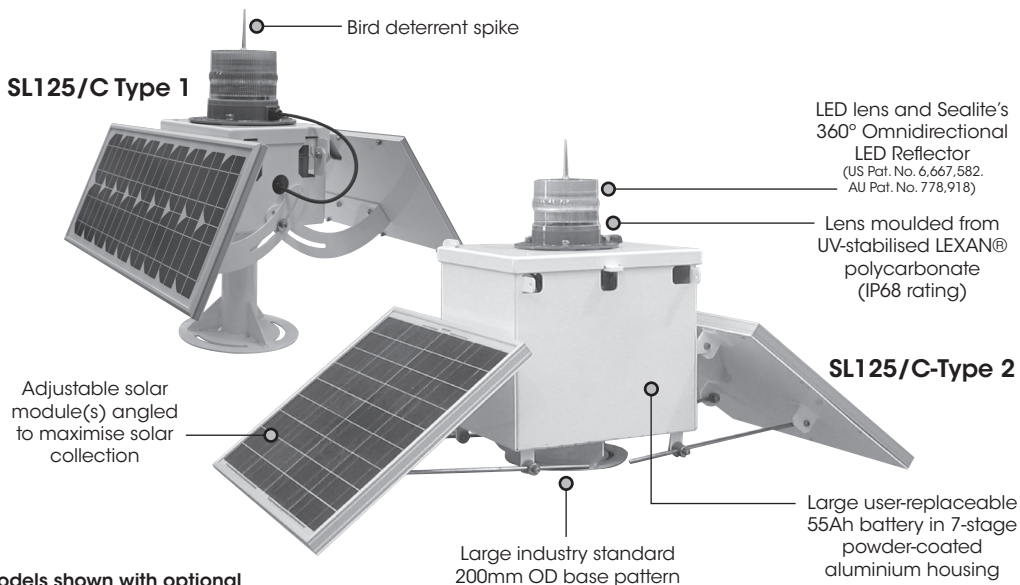
SL125 Series

5-9nm+ LED Marine Lantern



SL125 Complete

5-9nm+ Complete Marine Lantern Assembly



Models shown with optional
2nd solar module

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Version No.	Description	Date	Approved
1.0	Release	August 2010	K. Paton
1.1	Update: Spec tables	May 2012	J. Dore



Introduction

Congratulations! By choosing to purchase a Sealite lantern you have become the owner of one of the most advanced LED marine lanterns in the world.

Sealite Pty Ltd has been manufacturing lanterns for over 25 years, and particular care has been taken to ensure your lantern gives years of service.

As a commitment to producing the highest quality products for our customers, Sealite has been independently certified as complying with the requirements of ISO 9001:2008 quality management system.

Sealite lanterns comply with requirements of the US Coast Guard in 33 CFR part 66 for Private Aids To Navigation.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your lantern, and be able to maximise its operating function.

Please remember to complete the Sealite warranty registration card accompanying your lantern.

Operating Principle

The solar module of the lantern converts sunlight to an electrical current that is used to charge the battery (SL125-C-RC models only). The battery provides power to operate the lantern at night.

The flasher unit has very low current requirements. A microprocessor drives an array of ultra bright LED's through a DC/DC converter, which enables the LED's to operate within the manufacturer's specifications. The battery is protected from over-charging within the circuit to ensure maximum battery life.

On darkness, the microprocessor will initiate a program check and after approximately 1 minute begin flashing to the set code.

The Sealite Radio Controlled Lighting System works by using a hand held radio controller to activate and setup an entire port, harbour or channel. The system utilises an embedded RF module operating in the 2.4Ghz ISM Band.

The lights can be configured for up to 15 different light groups. This allows the Harbour Master to independently control different areas, such as multiple channels.

Due to the handheld nature of the Radio Controller, it can be used from any position in the port or harbour. This can allow for easy and efficient inspection or activation of different light groups without affecting other lights.

The standard radio controller broadcasts a command message to all lights within range. This range is approximately 1.4km (0.7 nautical miles). If a higher gain antenna is used the range can be extended.

Each light within range will receive, decode and re-send the message to all surrounding lights. Each light also has an operational range of 1.4km.

For distances, greater than 1.4km there may be a delay in those lights receiving the command. The further away the lights are from the controller the longer it will take the command to propagate to all lights.



Technology

Sealite is the world's fastest growing manufacturer of marine aids to navigation. We employ leading mechanical, optical, hardware & software engineers to create innovative products to service the needs of our customers worldwide, and offer the widest range of solar-powered LED lanterns in the marketplace.

Electronics

Sealite employs leading in-house electronic engineers in the design and development of software and related circuitry. All individual electronic components are sourced directly by Sealite procurement staff ensuring that only the highest quality components are used in our products.

LED Technology

All marine lanterns use the latest advancements in LED (Light Emitting Diode) technology as a light source. The major advantage of LED's over traditional light sources is well established in that they typically have an operational life in excess of 100,000 hours, resulting in substantial savings to maintenance and servicing costs.

Precision Construction

Commitment to investing in the design and construction of injection-moulded parts including optic lenses, light bases and a range of other components ensures that all Sealite products are of a consistent & superior quality.

Optical Performance

Sealite manufactures a range of marine LED lenses moulded from multi-cavity dies. Complex shapes such as the SL70, BargeSafe™ and 16-segment multi-focus lenses are a testament to the company's superior in-house lens manufacturing capabilities and outstanding optical performance.

Award-winning, Patented Technology

Several United States and Australian patent registrations are held on Sealite's range of innovative designs, with other regional patents pending in Canada, United Kingdom and Europe.

SL125-RC Models

The SL125 5-9nm+ light fixture is the most advanced LED marine lantern on the market. Utilising the latest software and micro circuitry developments, the lantern boasts a huge number of features including flash-memory and the most efficient power conversion available.

This maintenance-free model is also available with up to 4 tiers of 36 LEDs to increase the light intensity for a range of different light colours (see Specifications table below). Each LED tier utilises the Sealite omnidirectional LED Reflector (US Pat. No. 6,667,582. AU Pat. No. 778, 918) to increase the intensity and uniformity of the horizontal output. In particular, the SL125 4-tier model utilises a unique heat-dissipating domed lens to achieve maximum LED intensity output over a wider range of environmental conditions (see diagram page 8).

The SL125/C Complete Lantern Assembly provides a complete solution for visual navigation requirements, and is available in a range of solar/battery configurations to suit the installation and intensity requirements.

The Radio Controlled SL125 Series Lantern System is designed to permit port and marina authorities to directly control the operation of singular or groups of lanterns.

Controlled by a menu driven 2.4GHz handheld transceiver, lanterns may be:-

- Activated or deactivated
- Flash character changed to any of the 256 codes available
- Intensity adjusted up to 8 levels

The SL125-RC lantern can be fitted with up to 3 different LED colour combinations, allowing for fast changeover of channel direction or to quickly change the state of a channel, eg Open or Closed. This is all achieved using the handheld radio control unit.

Table 1.1. SL125 LED Marine Lantern Series (12v)

Model	Description	Peak Intensity Flashing (cd)	Colour	No. LEDs	Power Amp/hour	Voltage
SL125-1.R	1-tier LED Lantern	163	Red	36	0.42	12v
SL125-1.G		200	Green	36	0.32	12v
SL125-1.W		180	White	36	0.32	12v
SL125-1.Y		145	Yellow	36	0.42	12v
SL125-2.R	2-tier LED Lantern	280	Red	72	0.84	12v
SL125-2.G		328	Green	72	0.64	12v
SL125-2.W		319	White	72	0.64	12v
SL125-2.Y		257	Yellow	72	0.84	12v
SL125-3.R	3-tier LED Lantern	427	Red	108	1.28	12v
SL125-3.G		518	Green	108	0.96	12v
SL125-3.W		496	White	108	0.96	12v
SL125-3.Y		399	Yellow	108	1.28	12v
SL125-4.R	4-tier LED Lantern	798	Red	144	1.70	12v
SL125-4.G		1010	Green	144	1.28	12v
SL125-4.W		940	White	144	1.28	12v
SL125-4.Y		760	Yellow	144	1.70	12v

Subject to change or variation without notice



SL125 Series

SPECIFICATIONS •

Light Characteristics

Light Source

SL125-1: 36 ultra-high intensity LEDs
SL125-2: 72 ultra-high intensity LEDs
SL125-3: 108 ultra-high intensity LEDs
SL125-4: 144 ultra-high intensity LEDs
Red, Green, White, Yellow, Blue

Available Colours

Maximum Available Intensity (cd)†

Refer to SL125 Series Light & Electrical Characteristics Summary

Visible Range (nm)

5-9+

Horizontal Output (degrees)

360

Vertical Divergence (degrees)

9 (SL125-1, SL125-2 & SL125-3)

5 (SL125-4)

Reflector Type

Omnidirectional 360° LED Reflector
(US Pat. No. 6,667,582. AU Pat. No. 778,918)

Available Flash Characteristics

Intensity Adjustments

Up to 256 IALA recommended (user adjustable)

LED Life Expectancy (hours)

Adjustable in 25% increments

>100,000

Electrical Characteristics

Current Draw (mA)

Refer to Sealite Power Calculator

Circuit Protection

Integrated

Nominal Voltage (V)

12

Temperature Range

-40 to 80°C

Physical Characteristics

Body Material

LEXAN® Polycarbonate – UV-stabilised

Lens Material

LEXAN® Polycarbonate – UV-stabilised

Lens Diameter (mm/inches)

150 / 5⁷/₈

Lens Design

External optics with interior flute design

Mounting

3 & 4 hole bolt pattern on 200mm OD base

Height (mm/inches)

SL125-1: 205 / 8¹/₈

SL125-2: 240 / 9¹/₂

SL125-3: 240 / 9¹/₂

SL125-4: 240 / 9¹/₂

231 / 9¹/₈

From 1.1 / 2³/₈

Width (mm/inches)

Mass (kg/lbs)

Product Life Expectancy

Up to 12 years

Certifications

CE

EN61000-6-3:2001. EN61000-6-1:2001. EN55022. EN61000-4-2:1995.

EN61000-4-3:2002

USCG specification HSCG23-05-R-E43013, including Change 1.

ISO9001:2008

IP68

Quality Assurance

Waterproof

Intellectual Property

Patents

US Pat. No. 6,667,582. AU Pat. No. 778,918

Trademarks

SEALITE® is a registered trademark of Sealite Pty Ltd

Warranty *

3 years

Options Available

- GPS Synchronisation
- RF Synchronisation
- AIS Remote Monitoring
- GSM Monitoring & Control System
- Radio Control System
- Note - remote monitoring/control will reduce visible range of lantern due to increased power consumption
- Additional cable
- 3 or 10 degree lens



• Specifications subject to change or variation without notice

* Subject to standard terms and conditions

† Intensity setting subject to solar availability

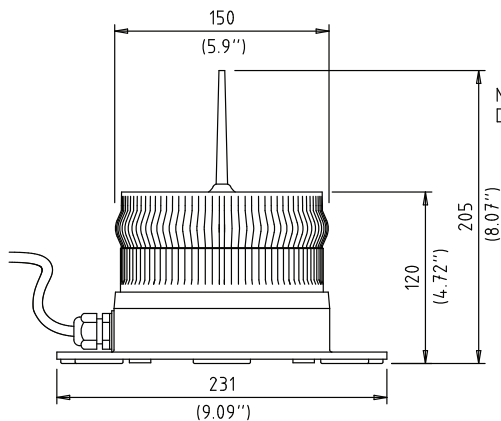


Figure 1.1.
SL125-1

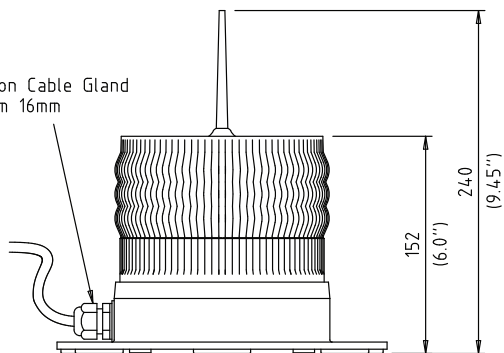


Figure 1.2.
SL125-2 & SL125-3

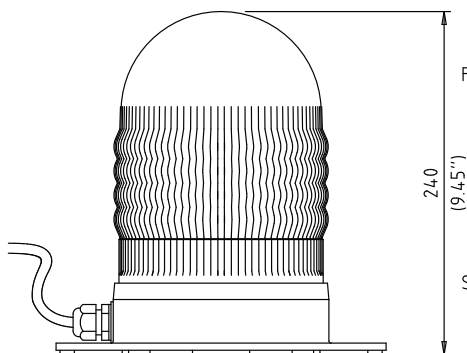


Figure 1.3.
SL125-4

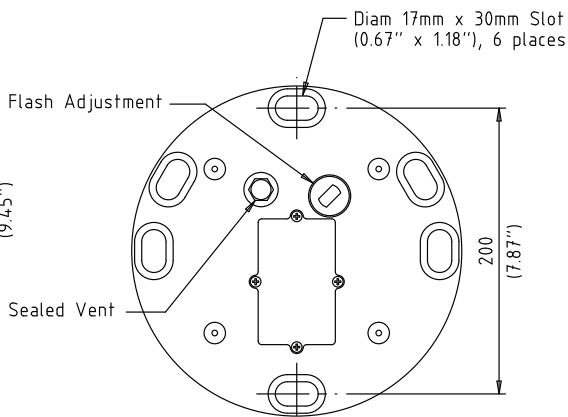


Figure 1.4.
Base (all models)



SL125 Type 1 Complete

SPECIFICATIONS •

Light Characteristics

Light Source

Available Colours

Maximum Available Intensity (cd)†

Visible Range (nm)

Horizontal Output (degrees)

Vertical Divergence (degrees)

Reflector Type

Available Flash Characteristics

Intensity Adjustments

LED Life Expectancy (hours)

Electrical Characteristics

Current Draw (mA)

Circuit Protection

Nominal Voltage (v)

Autonomy (days)

Temperature Range

Solar Characteristics

Solar Module Type

Output (watts)

Solar Module Efficiency (%)

Charging Regulation

Power Supply

Battery Type

Battery Capacity (Ah)

Nominal Voltage (v)

Battery Service Life

Physical Characteristics

Body Material

Lens Material

Lens Diameter (mm/inches)

Lens Design

Mounting

Height (mm/inches)

Width (mm/inches)

Mass (kg/lbs)

Product Life Expectancy

Certifications

CE

Quality Assurance

Waterproof

Intellectual Property

Patents

Trademarks

Warranty *

Options Available

SL125-1 or SL125-2

Red, Green, White, Yellow, Blue

Refer to SL125 Series Light & Electrical Characteristics Summary

5-9+

360

9

Omnidirectional 360° LED Reflector

(US Pat. No. 6,667,582. AU Pat. No. 778,918)

Up to 256 IALA recommended (user adjustable)

Adjustable in 25% increments

>100,000

Refer to Sealite Power Calculator

Reverse polarity

12

>20 (14 hour darkness, 12.5% duty cycle)

-40 to 80°C

Multicrystalline

20 (SL125-1/C-1 and SL125-2/C-1 configurations)

40 (SL125-1/C-2 and SL125-2/C-2 configurations)

14

Microprocessor controlled

SLA (Sealed Lead Acid)

26

12

Average 5 years

7-stage powder-coated aluminium

LEXAN® Polycarbonate - UV-stabilised

150 / 5⁷/₈

External optics with interior flute design

200mm OD base pattern

From 665 / 26¹/₄

656 / 25³/₄

From 18 / 39⁵/₈

Up to 12 years

EN61000-6-3:2001. EN61000-6-1:2001. EN55022. EN61000-4-2:1995.

EN61000-4-3:2002

USCG specification HSCG23-05-R-E43013, including Change 1.

ISO9001:2008

IP68 light head. IP66 battery compartment

US Pat. No. 6,667,582. AU Pat. No. 778,918

SEALITE® is a registered trademark of Sealite Pty Ltd

3 years

• Single or dual solar module(s)

• GPS Synchronisation

• RF Synchronisation

• GSM Monitoring & Control System

• Radio Control System

• *Note* - remote monitoring/control will reduce visible range of lantern due to increased power consumption

• 3 or 10 degree lens

• 40 watt panels

• Specifications subject to change or variation without notice
* Subject to standard terms and conditions
† Intensity setting subject to solar availability





SL125 Type 2 Complete

SPECIFICATIONS •

Light Characteristics

Light Source
Available Colours
Maximum Available Intensity (cd)†
Visible Range (nm)
Horizontal Output (degrees)
Vertical Divergence (degrees)
Reflector Type

Available Flash Characteristics
Intensity Adjustments
LED Life Expectancy (hours)

Electrical Characteristics

Current Draw (mA)
Circuit Protection
Nominal Voltage (v)
Autonomy (days)
Temperature Range

Solar Characteristics

Solar Module Type
Output (watts)

Solar Module Efficiency (%)
Charging Regulation

Power Supply

Battery Type
Battery Capacity (Ah)
Nominal Voltage (v)
Battery Service Life

Physical Characteristics

Body Material
Lens Material
Lens Diameter (mm/inches)
Lens Design
Mounting
Height (mm/inches)
Width (mm/inches)
Mass (kg/lbs)
Product Life Expectancy

Certifications

CE

Quality Assurance
Waterproof

Intellectual Property

Patents
Trademarks

Warranty *

Options Available

SL125 Series LED Lantern
Red, Green, White, Yellow, Blue
Refer to SL125 Series Light & Electrical Characteristics Summary
5-9+
360
9
Omnidirectional 360° LED Reflector
(US Pat. No. 6,667,582. AU Pat. No. 778,918)
Up to 256 IALA recommended (user adjustable)
Adjustable in 25% increments
>100,000

Refer to Sealite Power Calculator
Reverse polarity
12
>20 (14 hour darkness, 12.5% duty cycle)
-40 to 80°C

Multicrystalline
40 (SL125-1/C-1.T2, SL125-2/C-1.T2, SL125-3/C-1.T2 and SL125-4/C-1.T2)
80 (SL125-1/C-2.T2, SL125-2/C-2.T2, SL125-3/C-2.T2 and SL125-4/C-2.T2)
14
Microprocessor controlled

SLA (Sealed Lead Acid)
55
12
Average 5 years

7-stage powder-coated aluminium
LEXAN® Polycarbonate - UV-stabilised
150 / 5 7/8
External optics with interior flute design
200mm OD base pattern
From 570 / 22 1/2
665 / 26 1/4
From 45 / 99 1/4
Up to 12 years

EN61000-6-3:2001. EN61000-6-1:2001. EN55022. EN61000-4-2:1995.
EN61000-4-3:2002
USCG specification HSCG23-05-R-E43013, including Change 1.
ISO9001:2008
IP68 light head. IP66 battery compartment

US Pat. No. 6,667,582. AU Pat. No. 778,918
SEALITE® is a registered trademark of Sealite Pty Ltd
3 years

- Single or dual solar module(s)
- 100Ah battery
- 60watt solar module (single or dual configuration)
- GPS Synchronisation
- RF Synchronisation
- AIS Remote Monitoring
- GSM Monitoring & Control System
- Radio Control System
- Note - remote monitoring/control will reduce visible range of lantern due to increased power consumption
- Extended base post
- 3 or 10 degree lens

• Specifications subject to change or variation without notice
* Subject to standard terms and conditions
† Intensity setting subject to solar availability



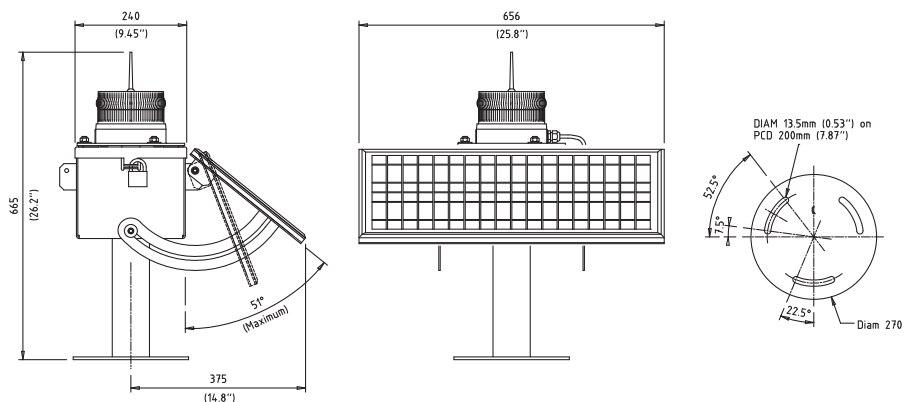


Figure 2.1.
SL125-1/C-1

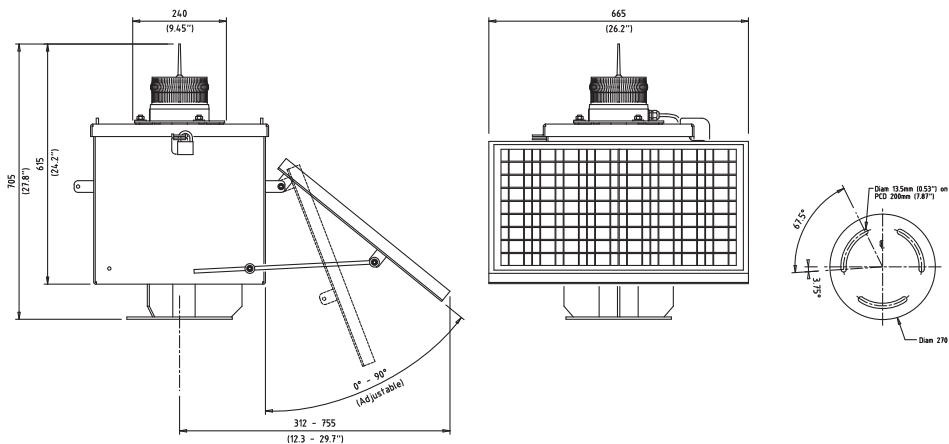


Figure 2.2.
SL125-1/C-1.T2

Setup & Installation

Setup of SL125-RC & SL125-C-RC Models

1. Remove the bolt/lock securing the battery box lid, and open unit (SL125-C-RC ONLY).
2. Use a large flat-blade screwdriver to remove the Flash Adjustment Plug from the base of the light (light-head of SL125-RC) (see figure 1.4).
A sealed vent on the base allows air transfer without moisture intake and should not be disturbed.
3. Adjust Rotary Switches A & B to setup lantern groups or lantern synchronisation.
ROTARY SWITCH A: Determine, to which group, each individual light belongs. E.g., Channel A lights = 0, Leading lights = 1, Channel B lights = 2, etc.
Adjust Rotary Switch A to the appropriate light group. E.g. 0, 1, or 2
ROTARY SWITCH B: Rotary Switch B is used for synchronising light groups. Light groups may flash together in synchronisation, or as a flare path.
 - Flash Synchronisation:
For each light group, set rotary switch B to the same number
 - Flare Path:
Start at one end of the channel. Set the first pair of lights = 0, next set of lights = 1, etc... If you have, more than 16 sets along the channel just continue the setting, e.g. D, E, F, 0, 1 this will allow all lights to continue the flare path.
4. To test operation of the light, the Radio Controller will need to be used (see "Using the Radio Controller to Activate SL125-RC Radio Controlled System" section of this manual).
5. Replace the Flash Adjustment Plug.
6. Close the battery box lid of the complete unit (SL125-RC ONLY).
7. Ensure that the unit is bolted to an even, flat surface.

Activation & Installation of SL125-RC

1. Battery Connection: Connect "Battery Positive (+)" wire to positive terminal of battery, and "Battery Negative (-)" wire to negative terminal of battery.
Mains Connection: Connect positive and negative wires to 12volt power supply (ONLY).
2. To test place dark cover (towel or jacket) on top of light to activate sensor, light will come on within one minute.
3. Ensure that the unit is bolted to an even, flat surface.

Activation & Installation of SL125-C-RC

1. Inside the battery box is an internal battery container. To access the battery, remove the four screws and lid of this internal container.
2. Connect the "Battery Negative (-)" wire to the negative terminal of the battery, and the "Battery Positive (+)" wire to the positive terminal of the battery.
3. Connect the "Battery Positive (+)" and "Battery Negative (-)" wires from the Solar Regulator to the battery.
4. Replace the internal battery container lid and screws making sure no wires are protruding.
5. Close the battery box lid and secure with bolt/lock. Light is now activated.
6. To test place dark cover (towel or jacket) on top of light to activate sensor, light will come on within one minute.
7. Ensure that the unit is bolted to an even, flat surface.

Care must be taken to observe the polarity of each wire before they are connected.

Note: Refer to 'Lantern Status' section of this manual to check the status of the light after activated. Indicated by red and yellow status LED's viewed at the base of the lens.

Sealite Radio Controller

The Sealite Radio Controller is a compact handheld unit that allows complete control of the Navigational lighting system. The unit allows you to roam around the port for easy activation, inspection and testing of the marine lights. The Sealite Radio Controller works on the 2.4GHz ISM Band using a low power RF module. The backlit, LCD can be seen during day or night. The straightforward menu makes it easy to operate.

The Sealite Radio Controller comes standard with an IP68 rated charging plug, omni-directional antenna and ON/OFF switch. It can also be optioned with an RS232 input.

The Radio Controller and charger come in an IP68 'Pelican' Case to protect it from the harsh environment, to which, it may be subjected.

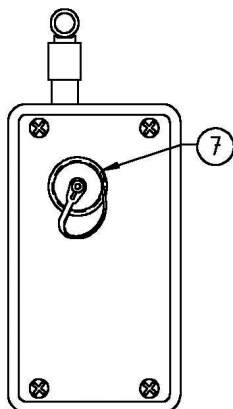


Fig 3.0. Radio Controller Side View

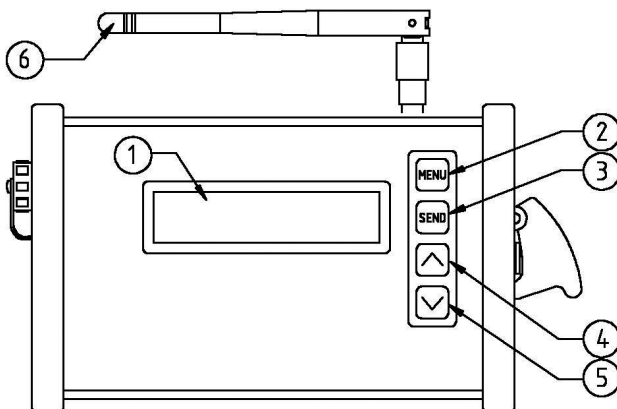


Fig 3.1. Radio Controller Front View

- 1 LCD Screen
- 2 MENU Button
- 3 SEND Button
- 4 UP Button
- 5 DOWN Button
- 6 Antenna
- 7 Charging Port – IP68 sealed plug. (Charger not shown)



Assembly & Installation of Radio Controller

The installation of the Radio Controller includes the following steps:-

- Unpacking
- Initial Inspection
- Assembling & Charging the Radio Controller
- Using the Radio Controller

Unpacking instructions

Unpack all hardware and verify container contents in accordance with Figs. 3.0 & 3.1. Please contact your Sealite office if there is any hardware missing.

Initial inspection

Inspect the Radio Controller for damage. If there is any damage, please contact your Sealite Office. Retain original packing material for possible future use.

Assembly & Charging

The Radio Controller can be activated after raising the aerial into the upright position

It may be necessary to charge the Radio Controller before use.

Turning the unit On

To turn the unit on, lift the red missile cover and flick the switch.

The radio controller will take 5 seconds to start up and it may take up to 30 seconds for the embedded RF Module to be configured before a command can be sent.

Charging the Radio Controller

- a. Unscrew the protective cap from the charging port, on the left side of the Radio Controller (see Fig, 3.0).
- b. Insert the charging terminal into the Radio Controller.
- c. Plug the charger into a wall socket and turn the charger on.
- d. The light on the charger will flash Green, Orange, Red then back to Orange.
- e. The charger has a LED to indicate the charge sequence.
 - i. Green – Unit is fully charged. The Radio Controller can be left connected in state.
 - ii. Orange – Unit is charging. The unit will charge for a maximum of 8 hours before automatically shutting down.
 - iii. Red – A fault is occurring, please contact Sealite Office.



Radio Controller Menu

This section of the document will provide a short explanation of all the menu screens on the control unit.

Modes of Operation

The operational mode defines how the light will respond to different environmental conditions & user inputs.

There are three operational modes, that can be selected via the controller:

ALWAYS ON, STANDBY & DUSK till DAWN.

ALWAYS ON Operational Mode

The light will be lit both day & night. While the light is in this mode it will only turn off when the battery drops below the Flat Battery Voltage level.

STANDBY Operational Mode

The light is *Always Off*. While the light is in this mode it will still respond to and pass on commands, sent by the controller. This mode should be used if the lights have been installed outside but are not currently required.

Note: The light is not completely powered down in a manner suitable for storage. If the light is to be stored in a warehouse or other dark environment the ON/OFF switch should be turned off.

DUSK till DAWN Operational Mode

The light is turned on and off based on the light sensor internal to each light. If the light is in the darkness, it will turn on. If the light is in daylight, it will turn off.

Light Group

This menu is used to select the current light group. The light group of each light is selected via rotary switch A found on the bottom of the circuit board, in the Light Head. The controller can select any one of the 15 individual light groups

(0 -> 9, A -> E) or select all radio lights at once.

Note: all units are set with a light group of 0 in the factory.

Flash Code

This menu is used to select any of the 256 preset flash codes in the lights (for a full list please see "Flash Codes" section of this manual).

Note: Flash Code '00' is steady on.

LED Intensity

This menu is used to select the intensity of the LEDs on the light. The options include Low, Medium & High.

- HARDWARE – the intensity is set on the Light circuit board using the DIP Switches.
- Low – LED intensity is set to low setting
- Medium - LED intensity is set to medium intensity (approx 50%).
- High - LED intensity is set to high intensity (approx 100%)

Note: this menu will not be enabled if the selected operational mode is *STANDBY*

Timeout Mode

Default = Enabled, LOW

This menu is used to setup the LED high intensity timeout feature found in each light.

The options include *Enabled LOW, Disable*.

- Enabled LOW – The immediate LED intensity is selected via the LED Intensity menu, after Timer Duration the LED Intensity will revert back to the LOW setting
- Disable – The high intensity LED timeout is disabled. The LED intensity will be selected via the LED intensity menu.

Note: this menu will not be enabled if the selected operational mode is STANDBY

Timeout Duration

Default = 15 Minutes

This menu is only visible when the timeout Mode is enabled. This menu is used to select the timeout duration, the time before the LED intensity reverts back to its LOW intensity state. The timeout duration can be set from 1 minute to 60 minutes.

LED Banks (Optional)

All Sealite SL125-RC series lights can have the option of having multiple colours in different LED banks.

This menu is used to select which LEDs on the light should be used to flash the selected flash code. The options include; *All LED Banks, LED Bank 1 Only, LED Bank 2 Only, LED Bank 3 Only, LED Bank 4 Only, Alternating 1, 2 & Cycle 1, 2, 3, 4*.

- ALL LED Banks – All LED Banks are used when on.
- LED Bank 1 Only – LED bank 1 only is used when on. LED banks 2, 3 & 4 are always off.
- LED Bank 2 Only – LED bank 2 only is used when on. LED banks 1, 3 & 4 are always off.
- LED Bank 3 Only – LED bank 3 only is used when on. LED banks 1, 2 & 4 are always off.
- LED Bank 4 Only – LED bank 4 only is used when on. LED banks 1, 2 & 3 are always off.
- Alternating 1, 2 – LED bank 1 & 2 will alternate at the end of each flash sequence. The light will start by flashing using LED bank 1, then it will flash an entire sequence using LED bank 2, then LED bank 1, and so on....
- Cycle 1, 2, 3, 4 – LED bank 1, 2, 3 & 4 will alternate at the end of each flash sequence. The light will start by flashing using LED bank 1, then it will flash an entire sequence using LED bank 2, then LED bank 3, then LED bank 4, then LED bank 1 and so on....

Note: this menu will not be enabled if the selected operational mode is STANDBY

Note: SL125-RC series lights have only 4 different LED banks.

Flare Path Setup

This menu is used when the lights are required to flash sequentially, in either direction in a channel.

To use this setting each light in the group will need to set sequentially using Rotary Switch B.

- On each light set the rotary switch to A=0 B=Set the first pair of lights = 0, next set of lights = 1, etc... If you have, more than 16 sets along the runway just continue the setting, e.g. D, E, F, 0, 1 this will allow all lights to continue the flare path

FORWARD Flare Path

Each set of lights will sequence from 0 to F.

REVERSE Flare Path

Each set of lights will sequence from F to 0.

SYNCHRONISATION OVERRIDE Flare Path

Rotary Switch B will be ignored and all lights with the same flash code will synchronise.

Light Sensor

Used to enable or disable the light sensor internal to each Light.

Note: this menu will only be enabled if the selected Operational Mode is *DUSK till DAWN*.

External Input

Used to enable or disable the external input line to the control unit.

Note: this menu will only be enabled if the selected operational mode is *DUSK till DAWN*

Battery Diagnostic

Default = Disable

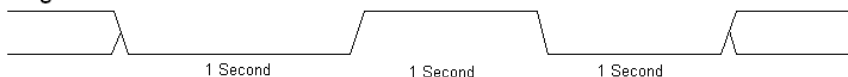
This feature can be used to check the battery voltage in every light in the system. The command can be sent any time and it will not affect the current state of the light. If the light is in STANDBY mode the light will turn on as shown below and revert to STANDBY mode after the diagnostic has been completed.

- If the battery voltage is within operational range the light will turn off for 1 second, flash once, then turn off for 1 second.
- If the battery voltage is low the light will turn off for 1 second, flash twice, then turn off for 1 second.

Controller Battery Voltage

This menu displays the current battery voltage of the controller unit.

Diagnostic Pass



Diagnostic Fail



Any voltage above 7.2V is within operational range.

If the voltage is below 7V the controller should be charged immediately. See "Charging the Radio Controller" section of this manual for details.

The Radio Controller can be left permanently plugged into the charger if required.

Note: The Radio Controller can still be used while it is charging.

Sending Commands

Every time the SEND button is pressed a command is sent containing all the current settings in the Radio Controller.

The SEND button can be used after changing one setting or after changing multiple settings.

Using the Radio Controller to Activate the SL125-RC Radio Controlled System

The Radio Controller is very easy to use and by reading through the “How To” sections below all of the advanced features will be well within your grasp.

Make sure that all the lights in the same Light Group have had the rotary switches set correctly (see “Setup & Installation” section of this manual for details).

HOW TO: Turn all the lights ON

- Turn the Radio Controller On
- Use the arrow keys to adjust the Operational Mode to *Always ON*
- Press *MENU* button once to reach *Light Group*
- Use the arrow keys to set the Light Group to *ALL*
- Press *SEND* button
- Every radio light within range of the control unit will now turn on

HOW TO: Setup the lights to operate in DUSK till DAWN mode

- Turn the Radio Controller unit On
- Use the arrow keys to adjust the operational Mode to *Dusk till Dawn*
- Press *MENU* button once to reach *Light Group*
- Set the Light Group to *ALL*
- Press *MENU* button until you reach *Light Sensor*
- Use the arrow keys to adjust the Light Sensor to *Enable*
- Press *SEND* button
- Every radio light within range of the control unit will now turn on at night, during the day the lights will turn off automatically

Note: if the lights were already in Always ON mode they will stay on for up to 60 seconds while the light sensor activates.

HOW TO: Channel B only is to be HIGH Intensity, but Channel A will remain in current configuration.

- On Channel A, set the rotary switches to A=0 B=0 inside the light head
- On Channel B, set the rotary switches to A=1 B=0 inside the light head.
Rotary Switch A can be set to any value that is different from Channel A
- Turn the Control unit On
- Use the arrow keys to adjust the operational Mode to *Always On*
- Press *MENU* button once to reach *Light Group*
- Set the Light Group to 1
- Press *MENU* button once to reach *LED Intensity*
- Use the arrow keys to adjust the LED Intensity to *HIGH*
- Press *MENU* button until you reach *LED Bank Setup*
- Use the arrow keys to adjust the LED Bank to *Visible*
- Press *SEND* button
 - Channel A will not change state
 - Channel B will now be High Intensity

HOW TO: Channel is to be set as a Flare Path using Flash Code F,0 and High Intensity

The channel will be tested in Always On mode then change to Dusk till Dawn.

- On each light set the rotary switch to A=0 B=Set the first pair of lights = 0, next set of lights = 1, next set of lights = 2, etc... If you have, more than 16 sets along the channel just continue the setting, e.g. D, E, F, 0, 1, 2, 3, this will allow all lights to continue the flare path.
- Turn the Control unit On
- Use the arrow keys to adjust the Operational Mode to *Always On*
- Press *MENU* button once to reach *Light Group*
- Set the Light Group to 0 (or whichever number matches Rotary Switch A)
- Press *MENU* button to Flash Code
- Set the Flash Code to F,0 (This flash code can be set to any of the 256 available)
- Press *MENU* button to reach *LED Intensity*
- Use the arrow keys to adjust the LED Intensity to *HIGH*
- Press *MENU* button to reach *Flare Path Direction*
- Use the arrow keys to adjust the Flare Path Direction to *FORWARD*
- Press *SEND* button
 - *The Channel will now start a Flare Path set in the desired Flash Code. It is in Always ON Mode.*
- Press *MENU* button to reach *Operational Mode*
- Use the arrow keys to adjust the Operational Mode to *Dusk till Dawn*.
- Press *SEND* button
 - *The Channel will now be set to operate automatically in Dusk till Dawn mode.*



Maintenance & Servicing

Designed to be virtually maintenance-free, the SL125-RC & SL125-C-RC series lantern require minimal attention though the following maintenance and servicing information is provided to help ensure the life of your Sealite product.

1. Cleaning Lens- occasional cleaning of the light lens/body may be required. Using a cloth and warm soapy water, wipe off any foreign matter before rinsing the lens/body with fresh water.
2. Cleaning Solar Panels- occasional cleaning of the solar panels may be required. Using a cloth and warm soapy water, wipe off any foreign matter before rinsing the panels with fresh water (SL125-C-RC models only).
3. Battery Check- inspection of batteries should be performed every three years (minimum) to ensure that the charger, battery and ancillary electronics are functioning correctly. Using a voltage meter, check that the battery voltage is at least 3.6 volts under 100mA load, and ensure all terminals are clear of foreign matter (SL125-C-RC models only).

Replacing the Battery

The SL125-C-RC series lantern have a sealed battery compartment which provides the user with the ability to change the battery after years of operation.

1. Remove the bolt/lock securing the battery box lid, and open unit.
2. Inside the battery box is an internal battery container. To access the battery, remove the four screws and lid of this internal container.
3. Remove old battery from container and disconnect all connecting wires. Discard battery in a safe manner.
8. Connect the "Battery Negative (-)" wire to the negative terminal of the new battery, and the "Battery Positive (+)" wire to the positive terminal of the new battery.
9. Connect the "Battery Positive (+)" and "Battery Negative (-)" wires from the Solar Regulator to the battery.
10. Replace the internal battery container lid and screws making sure no wires are protruding.
11. Close the battery box lid and secure with bolt/lock. Light is now activated.
12. To test place dark cover (towel or jacket) on top of light to activate sensor, light will come on within one minute.

***Care must be taken to observe the polarity of each wire before they are connected.
To ensure waterproofing of the unit, make sure that no wires are protruding and that there is an even seal.***

Always discard old batteries in a safe manner.

Lantern Status

Two status LED's on the main printed circuit board (position A in image below) provide the operator with an indication of the lantern status.

There is one RED and one YELLOW LED that in different combinations of ON/OFF/FLASHING will indicate the current operational status of the light, and vary depending on whether the lantern is set to steady-on, or a flashing light characteristic.

These indicator LED's can be viewed at the base of the lens.

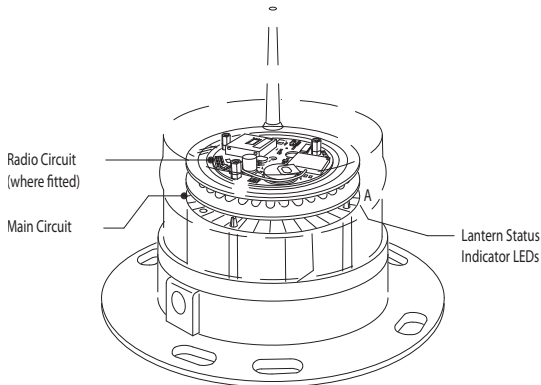


Fig. 4.0. Location of lantern status indicator LEDs

NOTE: *If checking in daylight lantern must be covered to activate flash pattern.*

STEADY & FLASHING LIGHTS

LED Combinations (Status Indicator LEDs 'A' in Fig.4.0.)		Lantern Status	Lantern	Comment
YELLOW LED	RED LED			
Flashing ON/ OFF very quick 9 times per second then 11 seconds off	OFF	Normal	OFF	Normal running condition in daylight.
Flashing constant	OFF	Normal	ON	Normal running condition.
Flashing ON/ OFF very quick 9 times per second	Fixed-on	Low Battery Voltage (<8v)	OFF	Battery is flat. Battery must receive charge and light must see daylight for at least 1 minute before resuming normal operation.
Fixed-on	OFF	High Solar Voltage (>15.3v)	ON	Battery is in state of very high charge. Check regulator if persists.
Flashing ON/ OFF 9 times per second	Flashing ON/ OFF 1 time per second	High internal ambient temperature (>75°C)	ON	Internal ambient temperature is >75°C. Selected light intensity is dropped by 25%. Will resume normal operation when temperature <75°C.

Flash Codes

The Sealite lantern may be set to any of 256 IALA recommended flash settings via the handheld radio controller.

SEALITE® code reference is listed by number of flashes

**For the latest version of this document visit www.sealite.com
or email info@sealite.com**

Symbols

FL	Flash followed by number Eg. FL 1 S, one flash every second
F	Fixed
Q	Quick flash
VQ	Very quick flash
OC	Occulting; greater period on than off
ISO	Isophase; equal period on and off
LFL	Long flash long
MO	Morse code () contains letter

For example, VQ (6) + LFL 10 S means 6 very quick flashes followed by a long flash, during a 10-second interval.

The amount of power your lantern draws through the night depends on the duty cycle, i.e. the amount of time on as a proportion to the timing cycle. For example, 0.5 seconds on and 4.5 seconds off equals a 10% duty cycle.

It is best to operate at the lowest duty cycle appropriate to the actual needs of the application.

Recommended Rhythm for Flashing Light - IALA Regions A and B

MARK DESCRIPTION	RHYTHM
Port Hand & Starboard Marks:	Any, other than Composite Group Flashing (2+1)
Preferred Channel Starboard:	Composite Group Flashing (2+1)
Preferred Channel Port:	Composite Group Flashing (2+1)
North Cardinal Mark:	Very quick or quick
East Cardinal Mark:	Very quick (3) every 5 seconds or quick (3) every 10 seconds
South Cardinal Mark:	Very quick (6) + long flash every 10 seconds or quick (6) + long flash every 15 seconds
West Cardinal Mark:	Very quick (9) every 10 seconds or quick (9) every 15 seconds
Isolated Danger Mark:	Group flashing (2)
Safe Water Mark:	Isophase, occulting, one long flash every 10 seconds or Morse Code "A"
Special Marks:	Any, other than those described for Cardinal, Isolated Danger or Safe Water Marks

SWITCH	FLASH CODE	ON	OFF
A	B		
0	0	F (Steady light)	
D	3	VQ 0.5 S	0.2 0.3
E	3	VQ 0.6 S	0.2 0.4
F	3	VQ 0.6 S	0.3 0.3
7	3	Q 1 S	0.2 0.8
8	3	Q 1 S	0.3 0.7
9	3	Q 1 S	0.4 0.6
A	3	Q 1 S	0.5 0.5
8	4	Q 1 S	0.8 0.2
B	3	Q 1.2 S	0.3 0.9
9	4	Q 1.2 S	0.5 0.7
C	3	Q 1.2 S	0.6 0.6
F	4	FL 1.5 S	0.2 1.3
1	0	FL 1.5 S	0.3 1.2
0	5	FL 1.5 S	0.4 1.1
0	4	FL 1.5 S	0.5 1.0
2	0	FL 2 S	0.2 1.8
3	0	FL 2 S	0.3 1.7
4	0	FL 2 S	0.4 1.6
5	0	FL 2 S	0.5 1.5
6	0	FL 2 S	0.7 1.3
7	0	FL 2 S	0.8 1.2
1	2	ISO 2 S	1.0 1.0
8	0	FL 2.5 S	0.3 2.2
9	0	FL 2.5 S	0.5 2.0
D	6	FL 2.5 S	1.0 1.5
1	5	FL 3 S	0.2 2.8
A	0	FL 3 S	0.3 2.7
2	5	FL 3 S	0.4 2.6
B	0	FL 3 S	0.5 2.5
3	5	FL 3 S	0.6 2.4
C	0	FL 3 S	0.7 2.3
D	0	FL 3 S	1.0 2.0
2	2	ISO 3 S	1.5 1.5
5	4	OC 3 S	2.0 1.0
E	2	OC 3 S	2.5 0.5
4	6	OC 3.5 S	2.5 1.0
4	5	FL 4 S	0.2 3.8
5	5	FL 4 S	0.3 3.7
E	0	FL 4 S	0.4 3.6
F	0	FL 4 S	0.5 3.5
6	5	FL 4 S	0.6 3.4
0	1	FL 4 S	0.8 3.2
1	1	FL 4 S	1.0 3.0
2	1	FL 4 S	1.5 2.5
3	2	ISO 4 S	2.0 2.0
3	6	OC 4 S	2.5 1.5
F	2	OC 4 S	3.0 1.0
3	1	FL 4.3 S	1.3 3.0
8	5	FL 5 S	0.2 4.8
4	1	FL 5 S	0.3 4.7
5	1	FL 5 S	0.5 4.5
9	5	FL 5 S	0.9 4.1
6	1	FL 5 S	1.0 4.0

SWITCH	FLASH CODE	ON	OFF
A	B		
7	1	FL 5 S	1.5 3.5
4	2	ISO 5 S	2.5 2.5
8	2	LFL 5 S	2.0 3.0
0	3	OC 5 S	3.0 2.0
1	3	OC 5 S	4.0 1.0
2	3	OC 5 S	4.5 0.5
C	6	FL 6 S	0.2 5.8
B	5	FL 6 S	0.3 5.7
C	5	FL 6 S	0.4 5.6
8	1	FL 6 S	0.5 5.5
9	1	FL 6 S	0.6 5.4
A	1	FL 6 S	1.0 5.0
7	5	FL 6 S	1.2 4.8
B	1	FL 6 S	1.5 4.5
5	2	ISO 6 S	3.0 3.0
9	2	LFL 6 S	2.0 4.0
6	4	OC 6 S	4.0 2.0
3	3	OC 6 S	4.5 1.5
4	3	OC 6 S	5.0 1.0
A	4	FL 7 S	1.0 6.0
9	6	FL 7 S	2.0 5.0
5	6	OC 7 S	4.5 2.5
D	5	FL 7.5 S	0.5 7.0
C	1	FL 7.5 S	0.8 6.7
E	5	FL 8 S	0.5 7.5
B	4	FL 8 S	1.0 7.0
6	2	ISO 8 S	4.0 4.0
A	2	LFL 8 S	2.0 6.0
6	6	OC 8 S	5.0 3.0
B	2	LFL 8 S	3.0 5.0
F	5	FL 9 S	0.9 8.1
C	4	FL 9 S	1.0 8.0
7	6	OC 9 S	6.0 3.0
0	6	FL 10 S	0.2 9.8
1	6	FL 10 S	0.3 9.7
D	1	FL 10 S	0.5 9.5
2	6	FL 10 S	0.8 9.2
E	1	FL 10 S	1.0 9.0
1	4	FL 10 S	1.5 8.5
C	2	LFL 10 S	2.0 8.0
D	2	LFL 10 S	3.0 7.0
7	2	ISO 10 S	5.0 5.0
2	4	LFL 10 S	4.0 6.0
8	6	OC 10 S	6.0 4.0
5	3	OC 10 S	7.0 3.0
6	3	OC 10 S	7.5 2.5
F	1	FL 12 S	1.2 10.8
D	4	FL 12 S	2.5 9.5
3	4	LFL 12 S	2.0 10.0
0	2	FL 15 S	1.0 14.0
4	4	LFL 15 S	4.0 11.0
7	4	OC 15 S	10 5.0
A	6	LFL 20 S	2.0 18.0
E	4	FL 26 S	1.0 25.0



SWITCH	FLASH CODE	ON	OFF	ON	OFF
A	B				
0	A FL (2) 4 S	0.5	1.0	0.5	2.0
E	B VQ (2) 4 S	0.2	1.0	0.2	2.6
1	A FL (2) 4.5 S	0.3	1.0	0.3	2.9
2	A FL (2) 4.5 S	0.4	1.0	0.4	2.7
3	A FL (2) 4.5 S	0.5	1.0	0.5	2.5
F	9 FL (2) 5 S	0.2	0.8	0.2	3.8
2	C FL (2) 5 S	0.2	1.2	0.2	3.4
4	A FL (2) 5 S	0.4	0.6	0.4	3.6
0	7 FL (2) 5 S	0.5	1.0	0.5	3.0
1	7 FL (2) 5 S	1.0	1.0	1.0	2.0
9	B Q (2) 5 S	0.3	0.7	0.3	3.7
2	9 Q (2) 5 S	0.5	0.5	0.5	3.5
5	A FL (2) 5.5 S	0.4	1.4	0.4	3.3
7	8 FL (2) 6 S	0.3	0.6	1.0	4.1
A	A FL (2) 6 S	0.3	0.9	0.3	4.5
6	A FL (2) 6 S	0.3	1.0	0.3	4.4
7	A FL (2) 6 S	0.4	1.0	0.4	4.2
9	9 FL (2) 6 S	0.5	1.0	0.5	4.0
2	8 FL (2) 6 S	0.8	1.2	0.8	3.2
3	7 FL (2) 6 S	1.0	1.0	1.0	3.0
3	9 Q (2) 6 S	0.3	0.7	0.3	4.7
A	9 FL (2) 7 S	1.0	1.0	1.0	4.0
7	B FL (2) 8 S	0.4	0.6	2.0	5.0
8	A FL (2) 8 S	0.4	1.0	0.4	6.2
4	7 FL (2) 8 S	0.5	1.0	0.5	6.0
8	8 FL (2) 8 S	0.8	1.2	2.4	3.6
5	7 FL (2) 8 S	1.0	1.0	1.0	5.0
4	C OC (2) 8 S	3.0	2.0	1.0	2.0
5	C OC (2) 8 S	5.0	1.0	1.0	1.0
F	B VQ (2) 8 S	0.2	1.0	0.2	6.6
9	A FL (2) 10 S	0.4	1.6	0.4	7.6
9	8 FL (2) 10 S	0.5	0.5	1.5	7.5
6	7 FL (2) 10 S	0.5	1.0	0.5	8.0
7	7 FL (2) 10 S	0.5	1.5	0.5	7.5
6	9 FL (2) 10 S	0.5	2.0	0.5	7.0
8	7 FL (2) 10 S	0.8	1.2	0.8	7.2
B	9 FL (2) 10 S	1.0	1.0	1.0	7.0
9	7 FL (2) 10 S	1.0	1.5	1.0	6.5
4	9 Q (2) 10 S	0.6	0.4	0.6	8.4
B	A FL (2) 12 S	0.4	1.0	0.4	10.2
C	9 FL (2) 12 S	0.5	1.0	0.5	10.0
D	9 FL (2) 12 S	1.5	2.0	1.5	7.0
A	8 FL (2) 15 S	0.5	1.5	2.0	11.0
A	7 FL (2) 15 S	1.0	2.0	1.0	11.0
8	B Q (2) 15 S	0.2	0.8	0.2	13.8
C	A FL (2) 20 S	1.0	3.0	1.0	15.0
D	A FL (2) 25 S	1.0	1.0	1.0	22.0

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF
A	B						
7	9 Q (3) 5 S	0.5	0.5	0.5	0.5	0.5	2.5
5	9 VQ (3) 5 S	0.2	0.3	0.2	0.3	0.2	3.8
0	C VQ (3) 5 S	0.3	0.2	0.3	0.2	0.3	3.7
E	9 VQ (3) 5 S	0.3	0.3	0.3	0.3	0.3	3.5
3	C FL (3) 6 S	0.5	1.0	0.5	1.0	0.5	2.5
2	B FL (2+1) 6 S	0.3	0.4	0.3	1.2	0.3	3.5



SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF
A	B						
A	B Q (3) 6 S	0.3	0.7	0.3	0.7	0.3	3.7
F	A FL (3) 8 S	0.5	1.0	0.5	1.0	0.5	4.5
0	B FL (3) 9 S	0.3	1.0	0.3	1.0	0.3	6.1
B	7 FL (3) 9 S	0.8	1.2	0.8	1.2	0.8	4.2
B	8 FL (3) 10 S	0.3	0.7	0.3	0.7	0.9	7.1
C	8 FL (3) 10 S	0.4	0.6	0.4	0.6	1.2	6.8
C	B FL (3) 10 S	0.5	0.5	0.5	0.5	0.5	7.5
C	7 FL (3) 10 S	0.5	1.5	0.5	1.5	0.5	5.5
D	B FL (3) 10 S	0.6	0.6	0.6	0.6	0.6	7.0
D	7 FL (3) 10 S	1.0	1.0	1.0	1.0	1.0	5.0
3	8 FL (2+1) 10 S	0.5	0.7	0.5	2.1	0.5	5.7
8	9 OC (3) 10 S	5.0	1.0	1.0	1.0	1.0	1.0
B	B Q (3) 10 S	0.3	0.7	0.3	0.7	0.3	7.7
D	8 FL (2 + 1) 10 S	0.5	0.5	0.5	0.5	1.5	6.5
1	B FL (3) 12 S	0.5	1.5	0.5	1.5	0.5	7.5
E	A FL (3) 12 S	0.5	2.0	0.5	2.0	0.5	6.5
E	7 FL (3) 12 S	0.8	1.2	0.8	1.2	0.8	7.2
B	6 FL (3) 12 S	1.0	1.0	1.0	3.0	1.0	5.0
4	8 FL (2+1) 12 S	0.8	1.2	0.8	2.4	0.8	6.0
5	8 FL (2+1) 12 S	1.0	1.0	1.0	4.0	1.0	4.0
1	8 FL (2+1) 13.5 S	1.0	1.0	1.0	4.0	1.0	5.5
F	7 FL (3) 15 S	0.3	1.7	0.3	1.7	0.3	10.7
9	D FL (3) 15 S	0.4	1.0	0.4	1.0	0.4	11.8
0	8 FL (3) 15 S	0.5	1.5	0.5	1.5	0.5	10.5
F	8 FL (2+1) 15 S	0.6	0.3	0.6	0.3	1.4	11.8
0	9 FL (2+1) 15 S	0.7	0.5	0.7	0.5	1.9	10.7
1	9 FL (2+1) 15 S	0.7	0.7	0.7	0.7	2.1	10.1
6	8 FL (2+1) 15 S	1.0	2.0	1.0	5.0	1.0	5.0
1	C VQ (3) 15 S	0.1	0.5	0.1	0.5	0.1	13.7
4	B FL (3) 20 S	0.5	3.0	0.5	3.0	0.5	12.5
3	B FL (3) 20 S	0.5	1.5	0.5	1.5	0.5	15.5
5	B FL (3) 20 S	0.8	1.2	0.8	1.2	0.8	15.2
6	B FL (3) 20 S	1.0	1.0	1.0	1.0	1.0	15.0

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF
A	B								
B	F VQ (4) 4 S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	2.3
B	D Q (4) 6 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	2.7
8	D Q (4) 6 S	0.4	0.6	0.4	0.6	0.4	0.6	0.4	2.6
1	D FL (4) 10 S	0.5	1.0	0.5	1.0	0.5	1.0	0.5	5.0
2	D FL (4) 10 S	0.8	1.2	0.8	1.2	0.8	1.2	0.8	3.2
F	E Q (4) 10 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	6.7
B	E FL (4) 12 S	0.3	1.7	0.3	1.7	0.3	1.7	0.3	5.7
4	F FL (4) 12 S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	8.5
C	E FL (4) 12 S	0.5	1.5	0.5	1.5	0.5	1.5	0.5	5.5
3	D FL (4) 12 S	0.8	1.2	0.8	1.2	0.8	1.2	0.8	5.2
A	D Q (4) 12 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	8.7
4	D FL (4) 15 S	0.5	1.5	0.5	1.5	0.5	1.5	0.5	8.5
8	E FL (4) 15 S	1.0	1.0	1.0	1.0	1.0	1.0	1.0	8.0
7	D FL (4) 15 S	1.5	0.5	0.5	0.5	0.5	0.5	0.5	10.5
D	E FL (4) 16 S	0.5	1.5	0.5	1.5	0.5	1.5	0.5	9.5
C	D FL (4) 20 S	0.3	3.0	0.3	3.0	0.3	3.0	0.3	9.8
5	D FL (4) 20 S	0.5	1.5	0.5	1.5	0.5	1.5	0.5	13.5
0	D FL (4) 20 S	0.5	1.5	0.5	1.5	0.5	4.5	0.5	10.5
3	F FL (4) 20 S	1.5	1.5	1.5	1.5	1.5	1.5	1.5	9.5
0	F Q (4) 20 S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	16.5
E	E Q (4) 28 S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	24.5
6	F FL (4) 30 S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	26.5

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	
A	B											
D	D	Q (5) 7 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	2.7
E	D	Q (5) 10 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	5.7
E	8	FL (5) 12 S	0.5	1.5	0.5	1.5	0.5	1.5	0.5	1.5	0.5	3.5
5	F	FL (5) 20 S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	15.5
9	F	FL (5) 20 S	0.8	1.2	0.8	1.2	0.8	1.2	0.8	1.2	0.8	11.2
9	E	FL (5) 20 S	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	11.0

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
A	B												
F	D	Q (6) 10 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	4.7
A	F	FL (6) 15 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	9.7
7	F	FL (6) 15 S	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	7.0
A	E	FL (6) + LFL 15 S	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0	7.0

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
A	B														
6	E	VQ (6) + LFL 10 S	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	5.0
7	E	VQ (6) + LFL 10 S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.4
2	F	Q (6) + LFL 15 S	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	7.0
2	E	Q (6) + LFL 15 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	7.0
3	E	Q (6) + LFL 15 S	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	5.8
8	F	VQ (6) + LFL 15 S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	9.4

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
A	B																		
4	E	VQ (9) 10 S	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.3	5.8
5	E	VQ (9) 10 S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	4.9
1	F	Q (9) 15 S	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	0.2	0.8	6.8
0	E	Q (9) 15 S	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	0.3	0.7	6.7
1	E	Q (9) 15 S	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	4.8

SWITCH	FLASH CODE	ON	OFF	ON	OFF	ON	OFF	ON	OFF
A	B								
MORSE CODE () INDICATES LETTER									
7	8	MO (A) 6 S	0.3	0.6	1.0	4.1			
7	B	MO (A) 8 S	0.4	0.6	2.0	5.0			
8	8	MO (A) 8 S	0.8	1.2	2.4	3.6			
B	8	MO (U) 10 S	0.3	0.7	0.3	0.7	0.9	7.1	
C	8	MO (U) 10 S	0.4	0.6	0.4	0.6	1.2	6.8	
D	8	MO (U) 10 S	0.5	0.5	0.5	0.5	1.5	6.5	
9	8	MO (A) 10 S	0.5	0.5	1.5	7.5			
8	9	MO (D) 10 S	5.0	1.0	1.0	1.0	1.0	1.0	
A	8	MO (A) 15 S	0.5	1.5	2.0	11.0			
F	8	MO (U) 15 S	0.6	0.3	0.6	0.3	1.4	11.8	
0	9	MO (U) 15 S	0.7	0.5	0.7	0.5	1.9	10.7	
1	9	MO (U) 15 S	0.7	0.7	0.7	0.7	2.1	10.1	
7	D	MO (B) 15 S	1.5	0.5	0.5	0.5	0.5	0.5	10.5

Trouble Shooting

Problem	Remedy
Lantern will not activate.	• Ensure lantern is in darkness. • Wait at least 60 seconds for the program to initialise in darkness. • Ensure switch setting is on a valid code (not unused flash code). • Ensure battery terminals are properly connected. • Ensure battery voltage is above 12volts.
Lantern will not operate for the entire night.	• Expose lantern to direct sunlight and monitor operation for several days. Sealite products typically require 1.5 hours of direct sunlight per day to retain full autonomy. From a discharged state, the lantern may require several days of operational conditions to 'cycle' up to full autonomy. • Reducing the light output intensity or duty cycle (flash code) will reduce current draw on the battery. • Ensure solar module is clean and not covered by shading during the day.
Flash codes will not change.	• This is a Radio Controlled light and any command must be sent from the Controller.



Notes



Notes

Sealite LED Light Warranty V2.1

Activating the Warranty

Upon purchase, the Sealite Pty Ltd warranty must be activated for recognition of future claims. To do this you have two (2) options:

1. **Postal Registration** - please complete the Sealite Warranty Registration Card and return to Sealite within 30 days of your purchase.
2. **Online Registration** - please complete the Online Registration Form at; www.sealite.com

Sealite Pty Ltd will repair or replace your LED light in the event of electronic failure for a period of up to three years from the date of purchase.

The unit must be returned to Sealite freight prepaid.

Warranty Terms

1. Sealite Pty Ltd warrants that any Sealite marine products fitted with telemetry equipment including but not limited to AIS, GSM, GPS or RF ("Telemetry Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
2. Sealite Pty Ltd warrants that any BargeSafe™ Series of LED barge light products ("BargeSafe™ Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
3. Sealite Pty Ltd warrants that any LED area lighting products ("Area Lighting Products") but not including sign lighting products will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
4. Sealite Pty Ltd warrants that any LED sign lighting products ("Sign Lighting Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
5. Sealite Pty Ltd warrants that any Sealite marine lighting products other than the Telemetry Products, BargeSafe™ Products, and Area Lighting Products ("Sealite Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
6. Sealite Pty Ltd will repair or replace, at Sealite's sole discretion, any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.
7. If any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products are fitted with a rechargeable battery, Sealite Pty Ltd warrants the battery will be free from defect for a period of one (1) year when used within original manufacturer's specifications and instructions.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to lanterns manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
 - a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Sealite;
 - b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
 - c. the defect is due to the product being repaired or tampered with by anyone other than Sealite or authorised Sealite repair personnel.



3. The customer must give Sealite Pty Ltd notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Typical battery replacement period is 3-4 years. Long term exposure to high temperatures will shorten the battery life. Batteries used or stored in a manner inconsistent with the manufacturer's specifications and instructions shall not be covered by this warranty.
5. No modifications to the original specifications determined by Sealite shall be made without written approval of Sealite Pty Ltd.
6. Sealite lights can be fitted with 3rd party power supplies and accessories but are covered by the 3rd party warranty terms and conditions.
7. The product must be packed and returned to Sealite Pty Ltd by the customer at his or her sole expense. Sealite Pty Ltd will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorised dealer and the price paid by the purchaser. On receipt of the product, Sealite Pty Ltd will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
8. Sealite Pty Ltd reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.
9. Input voltage shall not exceed those recommended for the product.
10. Warranty does not cover damage caused by the incorrect replacement of battery in solar lantern models.
11. This warranty does not cover any damage or defect caused to any product as a result of water flooding or any other acts of nature.
12. There are no representations or warranties of any kind by Sealite or any other person who is an agent, employee, or other representative or affiliate of Sealite, express or implied, with respect to condition of performance of any product, their merchantability, or fitness for a particular purpose, or with respect to any other matter relating to any products.

Limitation of Liability

To the extent permitted by section 68A of the Trade Practices Act 1974 (Cth), the liability of Sealite Pty Ltd under this Warranty will be, at the option of Sealite Pty Ltd, limited to either the replacement or repair of any defective product covered by this Warranty. Sealite will not be liable to Buyer for consequential damages resulting from any defect or deficiencies.

Limited to Original Purchaser

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Sealite Pty Ltd has authorised distribution in many countries of the world. In each country, the authorised importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Sealite Pty Ltd will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Sealite Pty Ltd factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Other Sealite Products Available



Marine Lanterns
(1-12nm+)



Monitoring
& Control Systems



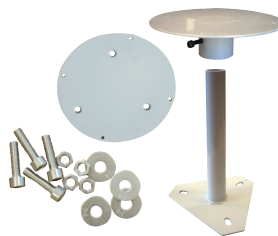
Bridge & Barge Lights



Marine Buoys
(up to 3mt in diameter)



Area Lighting



Mooring Systems
& Accessories